

## ***Abstract***

The present invention relates to conjugates of hemoglobin and human serum albumin and the preparation process thereof. The conjugates have molecular weight in the range of 100-300kD, comprising 1-3 intermolecularly or intramolecularly cross-linked hemoglobin molecules and 1-3 human serum albumin molecules. The conjugates are obtained by the following steps: preparing stroma-free hemoglobin, then coupling hemoglobin to human serum albumin and purifying the products using anion exchange chromatography. The hemoglobin and human serum albumin conjugates have characteristics suitable for being used as blood substitutes.